

WHAT IS CLAIMED IS:

1. An image pickup apparatus comprising:
  - an image pickup element, responsive to a periodically occurring drive timing signal, for picking up an image of an object;
  - 5 a shutter key for producing an operation signal when depressed;
  - a main control unit for controlling the whole image pickup operation of the image pickup apparatus, for directly receiving the operation signal produced by operating the shutter key, and for sensing as an interrupt signal an initial change in the operation signal to thereby to
  - 10 give an instruction to cause the image pickup element to start to pick up the image of the object; and
  - an image processor, responsive to the instruction given by the main control unit, for immediately producing a drive timing signal to cause the image pickup element to start to pick up the image of the object without
  - 15 waiting for an occurrence of a periodically occurring drive timing signal, and for processing data on the image of the object picked up by the image pickup element.
2. The image pickup apparatus according to claim 1, further
- 20 comprising:
  - a sub control unit for sampling a second operation signal, produced by depressing a key switch, at predetermined intervals of time to thereby produce a sampled signal, and for delivering information on the sampled signal to the main control unit.
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3. The image pickup apparatus according to claim 1, further comprising:

a sub control unit for directly receiving a second operation signal produced by depressing a key switch, for sensing an on state of the received second operation signal, and delivering information on the sensed on state of the second operation signal to the main control unit.

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4. The image pickup apparatus according to claim 1, wherein the main control unit determines that the shutter key is released when an off state of the operation signal was sensed successively a predetermined number of times by sampling the operation signal at predetermined  
10 intervals of time.

5. An image pickup apparatus comprising:  
an image pickup element for picking up an image of an object;  
a shutter key for producing an operation signal when depressed;  
15 a main control unit for controlling the whole image pickup operation of the image pickup apparatus, for directly receiving the operation signal produced by operating the shutter key, and for sensing an on state of the operation signal to thereby give an instruction to cause the image pickup element to start to pick up the image of the object; and  
20 a sub control unit for receiving a second operation signal produced by depressing a key switch, for sensing an on state of the second operation signal, and for delivering information on the sensed on state of the second operation signal to the main control unit.

25 6. The image pickup apparatus according to claim 5, wherein the main control unit senses as an interrupt signal an initial change in the operation signal produced by operating the shutter key and for giving an

instruction to cause the image pickup element to start to pickup the image of the object.

7. The image pickup apparatus according to claim 5, wherein  
5 when the main control unit once senses an on state of the operation signal produced by operating the shutter key, by sampling the operation signal at predetermined intervals of time, the main control unit instructs the image pickup element to start pickup of the image of the object.

10 8. The image pickup apparatus according to claim 5, wherein the main control unit determines that the shutter key is released, when an off state of the operation signal was sensed successively a predetermined number of times by sampling the operation signal at predetermined intervals of time.

15 9. The image pickup apparatus according to claim 5, wherein:  
the sub control unit samples a second operation signal, produced by depressing a key switch, at predetermined intervals of time to thereby produce a sampled signal, and for delivering information on the sampled  
20 signal to the main control unit.

10. The image pickup apparatus according to claim 5, further comprising:

an image processor, responsive to the instruction given by the main  
25 control unit, for producing a drive timing signal to cause the image pickup element to start to pick up the image of the object, and for processing data on the image of the object picked up by the image pickup element.

11. An image pickup apparatus comprising:

an image pickup element for picking up an image of an object;

a shutter key for producing an operation signal when depressed;

5 and

a main control for directly receiving the operation signal produced by operating the shutter key, for sensing as an interrupt signal an initial change in the operation signal to thereby give an instruction to cause the image pickup element to start to pick up the image of the object, and for  
10 determining that the shutter key is released when an off state of the operation signal was sensed successively a predetermined number of times by sampling the operation signal at predetermined intervals of time.

12. The image pickup apparatus according to claim 11, further  
15 comprising:

a sub control unit for sampling a second operation signal, produced by depressing a key switch, at predetermined intervals of time to thereby produce a sampled signal, and for delivering information on the sampled signal to the main control unit.

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13. The image pickup apparatus according to claim 11, further comprising:

a sub control unit for directly receiving a second operation signal produced by depressing a key switch, for sensing an on state of the received  
25 second operation signal, and delivering information on the sensed on state of the second operation signal to the main control unit.

14. The image pickup apparatus according to claim 11, further comprising:

an image processor, responsive to the instruction given by the main control unit, for producing a drive timing signal to cause the image pickup  
5 element to start to pick up the image of the object, and for processing data on the image of the object picked up by the image pickup element.

15. An image pickup apparatus comprising:

an image pickup element for picking up an image of an object;  
10 a shutter key for producing an operation signal when depressed;  
a main control unit for directly receiving the operation signal produced by operating the shutter key, for once sensing an on state of the operation signal by sampling the operation signal at predetermined intervals of time to thereby give an instruction to cause the image pickup  
15 element to start to pick up the image of the object, and for determining that the shutter key is released when an off state of the operation signal was sensed successively a predetermined number of times by sampling the operation signal at predetermined intervals of time.

20 16. The image pickup apparatus according to claim 15, further comprising:

a sub control unit for sampling a second operation signal, produced by depressing a key switch, at predetermined intervals of time to thereby produce a sampled signal, and for delivering information on the sampled  
25 signal to the main control unit.

17. The image pickup apparatus according to claim 15, further

comprising:

a sub control unit for directly receiving a second operation signal produced by depressing a key switch, for sensing an on state of the received second operation signal, and delivering information on the sensed on state  
5 of the received second operation signal to the main control unit.

18. The image pickup apparatus according to claim 15, further comprising:

an image processor, responsive to the instruction given by the main  
10 control unit, for producing a drive timing signal to cause the image pickup element to start to pick up the image of the object, and for processing data on the image of the object picked up by the image pickup element.

19. An image pickup method comprising the steps of:  
15 controlling the whole image pickup operation, directly receiving an operation signal produced by depression of a shutter key, and sensing as an interrupt signal an initial change in the operation signal to thereby give an instruction to cause the image pickup element to start to pick up an image of an object; and

20 responsive to the instruction, immediately producing a drive timing signal to cause the image pickup element to start to pick up the image of the object without waiting for an occurrence of a periodically occurring drive timing signal, and processing data on the image of the object picked up by the image pickup element.

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20. An image pickup method comprising:

a main control step including controlling the whole image pickup

operation, directly receiving an operation signal produced by depression of a shutter key, and sensing an on state of the operation signal to thereby instruct an image pickup element to start to pick up an image of an object; and

5           a sub control step including receiving a second operation signal produced by depression of a key switch, sensing an on state of the second operation signal, and delivering information on the sensed on state of the second operation signal to the main control step.

10           21.     An image pickup method comprising the steps of:  
              directly receiving an operation signal produced by depression of a shutter key, sensing as an interrupt signal an initial change in the operation signal to thereby instruct an image pickup element to pick up an image of an object; and

15           determining that the shutter key is released when an off state of the operation signal was sensed successively a predetermined number of times by sampling the operation signal at predetermined intervals of time.

              22.     An image pickup method comprising the steps of:  
20           directly receiving an operation signal produced by depression of a shutter key, sensing an on state of the operation signal by sampling the operation signal at predetermined intervals of time, and then instructing an image pickup element to start to pick up an image of an object when the on state of the operation signal was sensed once; and

25           determining that the shutter key is released when an off state of the operation signal was sensed successively a predetermined number of times by sampling the operation signal at predetermined intervals of time.